



## LOUISIANA NATURAL AND SCENIC RIVERS SYSTEM

**PERMIT APPLICATION**Permit # 904 (Assigned by Department)

The Louisiana Department of Wildlife and Fisheries' Scenic Rivers program is authorized by LRS title 56, Chapter 9 Part II. This law requires permits authorizing activities in or affecting rivers that have been designated by the Louisiana Legislature as Natural and Scenic. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary, however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

**APPLICANT INFORMATION**

Name of Applicant	Comstock Resources, Inc.	Name of Agent (if any)	EcoScience Resource Group, LLC
Address	5300 Town and Country Blvd.	Address	11827 Sunray Ave.
Address	Suite 500	Address	
City, State, Zip	Frisco, TX 75034	City, State, Zip	Baton Rouge, LA 70816
Phone	972.668.8800 (Keith Lorenz)	Phone	225.755.8844 (Pete Lee)

**DESCRIPTION OF THE PROPOSED ACTIVITY**

Brief summary of the description and purpose of the proposed activity (details to be attached as a separate document)

Withdraw water from the Amite River into private pond storage for use in hydraulic fracturing.

Is any portion of the activity complete? YES ☒ NO (If yes indicate month and year of completion)**LOCATION OF PROPOSED ACTIVITY**

Stream Name	Amite River	Names, Addresses, Phone Numbers of Adjacent Property Owners
Parish	East Feliciana	Murray Nolan Smith
Section	1S	12247 Highway 961
Township	3E	Clinton, LA 70722
Range	54	Phone not provided
Latitude/Longitude	N30° 55' 45.6", W90° 51' 31.6"	

**ENVIRONMENTAL ASSESSMENT**

Must be a separate document. See the attached instruction sheet for completing the assessment.

**CONFIRMATION OF INFORMATION ACCURACY**

Application is hereby made for a Scenic River Use Permit to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that, to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities, or I am acting as the duly authorized agent of the applicant.

Signature

6/17/14

Date

June 18, 2014

**Louisiana Department of Wildlife and Fisheries Scenic Rivers Program**  
**P.O. Box 98000**  
**Baton Rouge, LA 70898-9000**

Re: Scenic River Permit Application  
Amite River Smith Intake  
East Feliciana Parish  
Comstock Resources, Inc.

Dear Representative:

As the agent for and on behalf of Comstock Resources, Inc., please accept this Scenic River Permit Application. An original and six (6) copies are enclosed. EcoScience check no. 39441 for the \$100.00 administrative fee is enclosed. Public notice publication will be submitted shortly and proof will be provided later.

If you have any questions, please contact me. Thank you for your assistance.

Respectfully,



Peter B. Lee, P.G., P.H.  
Principal Hydrogeologist

Cc: Comstock Resources, Inc.

# Louisiana Scenic River Permit Application

for  
**Amite River Smith Intake  
East Feliciana Parish, Louisiana**

*Prepared for*

**Comstock Resources, Inc.  
5300 Town and Country Blvd.  
Suite 500  
Frisco, TX 75034**



**June 15, 2014**

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## 1.0 PROJECT DESCRIPTION

Comstock Resources, Inc. is planning to drill and develop a well in the Tuscaloosa Marine Shale (TMS) by hydraulic fracturing. The water supply will be provided by surface water from the Amite River in East Feliciana Parish on private property. The Amite River has been designated as a Scenic River from the Mississippi-Louisiana state line to LA Hwy. 37.

The planned extraction point is designated as the Smith Intake (Figure 1) and is located at N30° 55' 45.6", W90° 51' 31.6". All figures are in Appendix A. The water will be pumped into a former gravel pit impoundment on private property, outside of the 100-foot Scenic River buffer, and then pumped to the well site. The surface water will be pumped from a screened intake hose by a trailer-mounted pump into a temporary discharge line to the storage pond and to the well site, which is within a mile of the intake point. The water supply required is 300,000 barrels (bbls) or 12,600,000 gallons. The pumping rate will vary from 25-80 bbls/minute or 1,050-3,360 gallons per minute (gpm). Based on these rates with constant pumping, withdrawal could be from 2.6 to 8.3 days. Pumping may be discontinuous and periodic in stages. The in lake hose will be 4 to 10 inches in diameter and the discharge will be controlled by valves and/or pump speed.

## 2.0 PROJECT LOCATION

The Smith Intake location is depicted on an aerial photograph (Figure 2) and topographic map (Figure 3) in Appendix A. Access to the intake point of withdrawal is through a cleared pathway on private property through hardwood and pine forest to the river bank. No trees or flora will be affected by operations. Figures 4-7 are photographs of the intake on June 6, 2014.

## 3.0 OTHER REQUIRED PERMITS

The Louisiana Department of Natural Resources (DNR) has a Louisiana Running Surface Water Use Cooperative Endeavor Agreement with a Surface Water Withdrawal Application. This application will be submitted.

## **4.0 ENVIRONMENTAL ASSESSMENT**

### **4.1 Existing Land Use**

The access property adjacent to the intake is privately-owned hardwood and pine forest on the river bank. The land is used for recreation by the owner. Landowner contact is in Appendix E.

### **4.2 Historical/Archeological Sites**

The National Register of Historic Places indicates that there are thirty-two (32) sites in St. Feliciana Parish. None are near the project site according to the available information (Appendix B). A request for the presence of archaeological sites was sent to the State Historical Preservation Officer (SHPO). Since the Amite River is the boundary of East Feliciana and St. Helena Parishes, St. Helena Parish was researched; there are two (2) sites in St. Helena Parish in Greensburg, LA.

### **4.3 Economic Impact of the Project**

The drilling and production of the well will generate increases in tax revenue for the parish and state as severance taxes, ad valorem taxes and sales taxes. The well may generate drilling/production of more wells in the parish. The local population may benefit from the creation of jobs and services.

### **4.4 Wilderness/Rural Quality**

The temporary extraction point is adjacent to private property. The Amite River has hardwood forest along the banks except at the intake point, which is open. There are no jurisdictional wetlands affected by pumping or access. There will be no excavation or land disturbance. The landowner has sole access to the intake point area. Land in this area is rural with agricultural and hunting uses. The nearest residence is approximately 800 feet to the north. There are numerous camps upstream beyond this residence. None will be affected by the project.

#### **4.5 Scenic/Aesthetic Value**

The use of the extraction point is temporary and the site will be restored to existing condition. There is no aesthetic value except to the landowner. Access from up or downstream is limited due to shallow seasonal depth to restrict navigation (Figures 5 and 6). According to local inhabitants of the river, upstream travel is limited to jet or air boats and downstream access can also be by floating crafts such as canoes.

#### **4.6 Recreational Use/Opportunity**

This portion of the Amite River is designated as segment LA4030100 of the Lake Pontchartrain Basin in the LDEQ 2010 Louisiana Water Quality Inventory. Designated water body uses are primary contact recreation (swimming), secondary contact recreation (boating), fish and wildlife propagation, and outstanding natural resource water (Appendix B). Only primary and secondary recreation are fully supported. The only direct access for recreation is controlled by the landowner. Access from upstream or downstream for swimming or boating is possible. Temporary use of the extraction point will not interfere with the water body uses since only a hose or pipe will be placed in the river.

#### **4.7 Ecological System Present**

The existing flora on the river bank is hardwood and pine forest and other associated plants. There is an open pathway to the intake point. All equipment and discharge hoses will use the pathway. There is limited habitat for wildlife and there are presently periodic visits to the area by the landowner. The river supports limited aquatic species due to the shallow depth. No wetlands are present. The bank soils are sandy and slope to the intake point. No erosion is expected and will be controlled by Best Management Practices (BMPs), if needed.

#### **4.8 Fish and Wildlife in the Area**

The listing of rare, threatened and endangered species (TES) from the DWF Natural Heritage Program indicates that the Inflated Heelsplitter is threatened and the Pallid Strugeon and Manatee are endangered species found in East Feliciana Parish. The Alabama Shad is listed as a federal candidate species. The Manatee is most likely not present. The rare plants and animals will not be affected since there will be no vegetative clearing and a filter will be attached to the

pump intake to prevent taking of any aquatic species. As a precaution, the work area will be surveyed to identify and avoid any rare plant species prior to equipment placement. There are no TES in St. Helena Parish; the Alabama Shad is listed as a federal candidate species.

#### **4.9 Botanical Elements**

The area adjacent to the intake is an opening in the hardwood/pine forest with natural grasses and sandy sloping beach (Figure 7). No trees or vegetation will be cut or removed.

#### **4.10 Geological Features**

The surface geology of the intake point comprises Pleistocene high terrace deposits consisting of tan to orange clay, silt and sand with large amounts of basal gravel (Geologic Map of Louisiana, 1984). The bank elevation at the intake point is approximately 163 feet, North American Vertical Datum (NAVD). The elevation increases to the north over 500 feet to approximately 174 feet, NAVD (Figure 3). To the east, the elevation increases slightly across the floodplain to the cut bank to approximately 175 feet, NAVD over a distance of approximately 200 feet.

#### **4.11 Hydrological Features**

The Amite River is a tributary in the Lake Pontchartrain Basin. The basin is bounded on the north by the Mississippi state line, on the west and south by the east bank Mississippi River levee, on the east by the Pearl River Basin, and on the southeast by Breton and Chandeleur Sounds. This basin includes Lake Borgne, Breton Sound, Chandeleur Sound, and the Chandeleur Islands. The northern part of the basin consists of wooded uplands, both pine and hardwood forests. The southern portions of the basin consist of cypress-tupelo swamps and lowlands and brackish and saline marshes. Elevations in this basin range from minus five feet at New Orleans to over two hundred feet near the Mississippi border.

The Amite River Drainage Basin (Appendix B) begins in southwest Mississippi, with headwaters spanning Lincoln, Franklin, Amite, and Wilkinson Counties. The East and West Forks of the Amite River reach a confluence near the Mississippi/Louisiana state line. The main trunk of the Amite River then progresses south through East Feliciana, St. Helena, East Baton Rouge, Ascension, and Livingston Parishes; where it empties into Lake Maurepas.

The intake point on the west bank is the sloped sandy bank with approximately 10 feet of depth to the river bottom (Figure 7). The east bank is the cut or eroding bank (Figure 4).

#### 4.12 Water Quality/Quantity

Segment LA04030100 is listed on the 303 (d) list of impaired water bodies due to mercury in fish tissue, total suspended solids and turbidity (Appendix B). The causes are atmospheric deposition of mercury and mine tailings. Extraction will not contribute to the impairment since mercury is not used and there will be no mining. Best management practices, such as silt fences and mats will be used to prevent sediment from entering the river if needed.

The projected volume needed for the well is 12,600,000 gallons at a rate of 1,050-3,360 gpm. The dimensions of the extraction point were measured on June 6, 2014 as follows:

Width (ft)	Water depth from bottom (ft)	Water Volume/foot (ft <sup>2</sup> )
145	2	290

The velocity was measured with a MFP51 Stream Flowmeter. In addition, velocity and discharge data over the past 12 months were obtained from the USGS Darlington gauge graph approximately 3 miles downstream at Hwy. 10 (Appendix B). Average velocities over time at the Darlington gauge were obtained from the USGS *Technical Report 70, Low-Flow Characteristics of Louisiana Streams* (Appendix B).

	Velocity (ft/sec)	Discharge (ft <sup>3</sup> /sec)	Discharge (gpm)
Flow Meter	2.6	754	338,395
Darlington Gauge June 6		1,000	448,800
Darlington Gauge (12-month Min.)		50	22,440
Darlington Gauge (12-month Max.)		20,000	8,976,000
TP 70 7Q10		206	92,452
TP 70 99%		208	93,350
Min. Pump Rate			1,050
Max. Pump Rate			3,360

The discharge at the intake is calculated by multiplying the water/volume/foot of 290 ft<sup>2</sup> by the velocity. The TP 70 7Q10 flow is the lowest annual average flow for 7 consecutive days over a 10-year interval. The TP 70 99% is the flow rate that exceeds 99% of days.

The lowest measured discharge on June 6, 2014 was 338,395 gpm. The flow rate at the Darlington gauge on June 6, 2014 was 448,800` gpm (Appendix B). The ratio of the measured rate at the intake to the gauge is 75%. This ratio is then used to reduce the TP 70 99% rate to adjust it to the intake point, which results in 70,012 gpm. The minimum drawdown is based on the June 6, 2014 depth of 2 feet multiplied by the percentage of minimum and maximum drawdown.

<b>Adjusted 99% (gpm)</b>	<b>Min. Flow Rate (gpm)</b>	<b>Max. Flow Rate (gpm)</b>	<b>Min. % of 99% Discharge</b>	<b>Max. % of 99% Discharge</b>	<b>Min. Drawdown (ft)</b>	<b>Max. Drawdown (ft)</b>
70,012	1,050	3,360	1.4	4.7	0.03	0.09

Therefore, the drawdown at the point of intake will be 0.03 to 0.09 feet, which will not prevent flow from continuing downstream. Figure 8 depicts the intake and Darlington Gauge locations in reference to the Amite drainage area.

## **5.0 LEGAL AGREEMENT**

The signed legal agreement is in Appendix C.

## **6.0 COMPLIANCE HISTORY**

The applicant has no regulatory or compliance history in Louisiana.

## **7.0 STEPS TO MINIMIZE IMPACTS**

A site was chosen to minimize environmental impacts from vehicles and equipment. The intake is accessed by a developed pathway and there will be no impact to flora or fauna. There will be no impact to the Amite River from sediment since there will be no mining or earth clearing; however BMPs will be implemented if needed to prevent erosion and sediment into the river. The site was partially chosen because no wetlands will be affected. Threatened and

endangered aquatic species damage will be mitigated by the intake hose screen. The affected area will be surveyed for rare plant species and habitat and avoided if present.

The planned flow rates from the river are estimated to be 1.4-4.7% of the flow rate expected 99% of the time resulting in less than 0.1 feet of drawdown. The pumping will be from 2.8 to 8.3 days if pumped continuously. After removal of the equipment, the river access area and river will be restored to original condition prior to pumping.

## **8.0 PROJECT ALTERNATIVE**

There are two sources of water in Louisiana: surface water and groundwater. Louisiana Water Resources Report dated March 15, 2012 encourages the use of abundant surface water over the use of high quality groundwater for hydraulic fracturing. Surface water from streams, ponds and lakes is the preferred alternative. For this project, water from the Amite River will be pumped into storage ponds and then into the well. The Amite River will naturally recharge over time from rainfall and springs. This section of the river, although it is a designated Scenic River, is relatively low quality, is impaired, is not used for recreation or fish and wildlife propagation and will not be affected except for temporary withdrawal. There will be no affect on recreation or wildlife. All water will be pumped and contained in hoses or ponds and water will not have to be transported via trucks, which increase traffic and safety hazards for the population, to the project area. Once the water is used, any flowback water will be contained, transported and disposed in an injection well.

## **9.0 SUMMARY**

The proposed withdrawal of surface water from the Amite River will NOT:

- Affect the current land use
- Impact historical sites
- Interfere with the use of the property or nearby residents
- Interfere with recreational use
- Affect the aesthetic value of the river
- Permanently alter the natural ecological system
- Impact wetlands

- Significantly impact fish and wildlife
- Require use of high quality ground water
- Cause the water quality to change
- Significantly reduce the stream flow
- Draw down the river to a level that prevents flow
- Add unnecessary truck traffic to the community



## State of Louisiana

BOBBY JINDAL  
GOVERNOR

DEPARTMENT OF WILDLIFE AND FISHERIES

ROBERT J. BARHAM  
SECRETARY

Dear Scenic River Permit Applicant:

Please review and concur on the following statement regarding the issuance of permits by the Louisiana Department of Wildlife and Fisheries. This agreement must be signed and returned before a Scenic River Permit can be issued.

"I have been advised and do understand that by applying for and accepting a Scenic Rivers permit issued by the Louisiana Department of Wildlife and Fisheries, I am being allowed to engage in an activity which would otherwise be prohibited by law or for which a permit is required. I understand that the permit is not a license and confers no property right upon me. I specifically agree to abide by all State and Federal fish and wildlife laws and regulations, and all State and Federal laws and regulations which relate to this permit or the permitted activity, and by all other terms and conditions of this permit. I understand that the permit for which I am applying may be suspended, annulled, withdrawn or revoked and that I may be assessed civil penalties, all in accordance with the provision of the Louisiana Administrative Procedure Act, and that I may be denied future permits as a consequence of my failure to fully and completely comply with the terms and conditions of the permit, as well as other laws and regulations pertinent thereto. If served with or notified of a cease and desist order signed by the Scenic Rivers Administrator, I agree to immediately and without delay cease all activities and operations which relate to the permitted activity or which are impacting the Scenic River, until such time as the matter can be resolved in an adjudicatory hearing pursuant to the Louisiana Administrative Procedure Act. I understand and agree that any permit issued to me by the Louisiana Department of Wildlife and Fisheries is in the nature of a privilege which is being voluntarily extended to me by the Department and the failure on my part to cooperate with the Department can result in the loss of the privilege conferred and the denial of future requests for permits. By accepting this permit, I evidence my agreement to be bound by all conditions and stipulations set forth herein."

A handwritten signature in black ink, appearing to read "Robert J. Barham", written over a horizontal line.

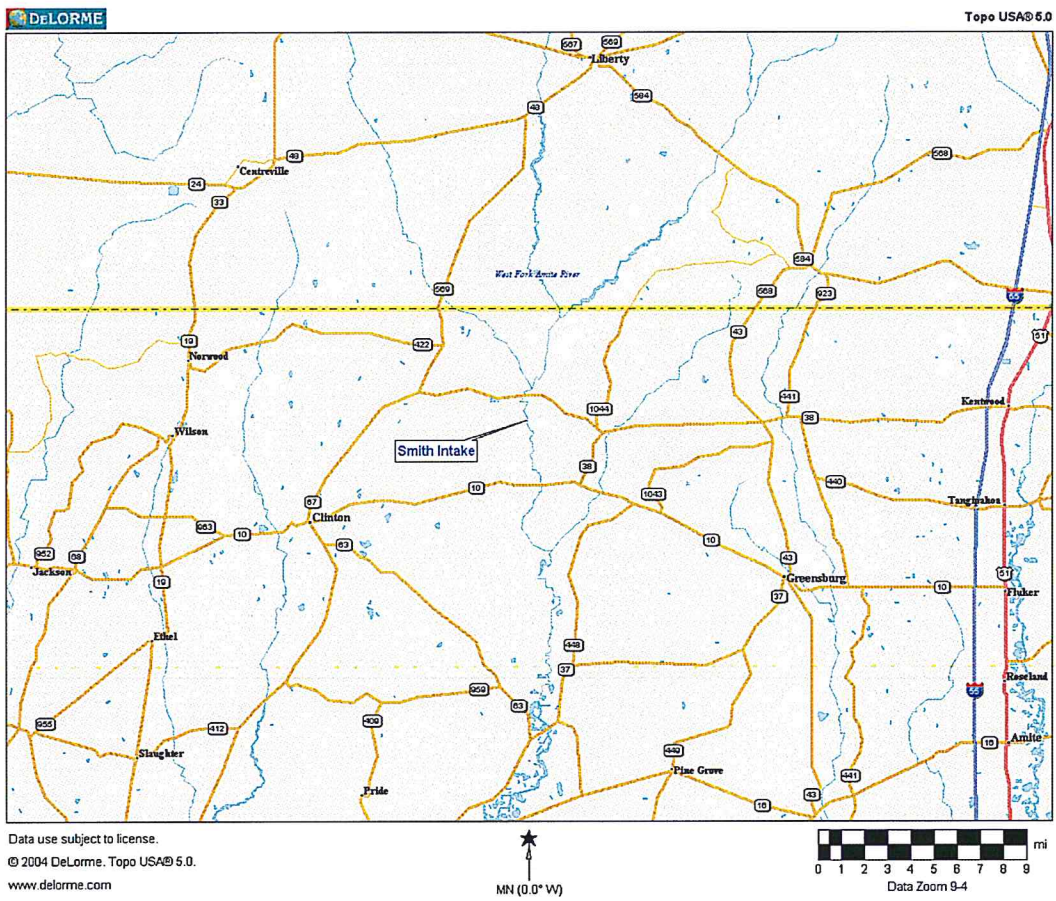
Authorized Signature

A handwritten date "6/17/14" in black ink, written over a horizontal line.

Date

REV. 12/7/98

Figure 1. Regional Location Map



### Figure 8. Tickfaw River Drainage Area

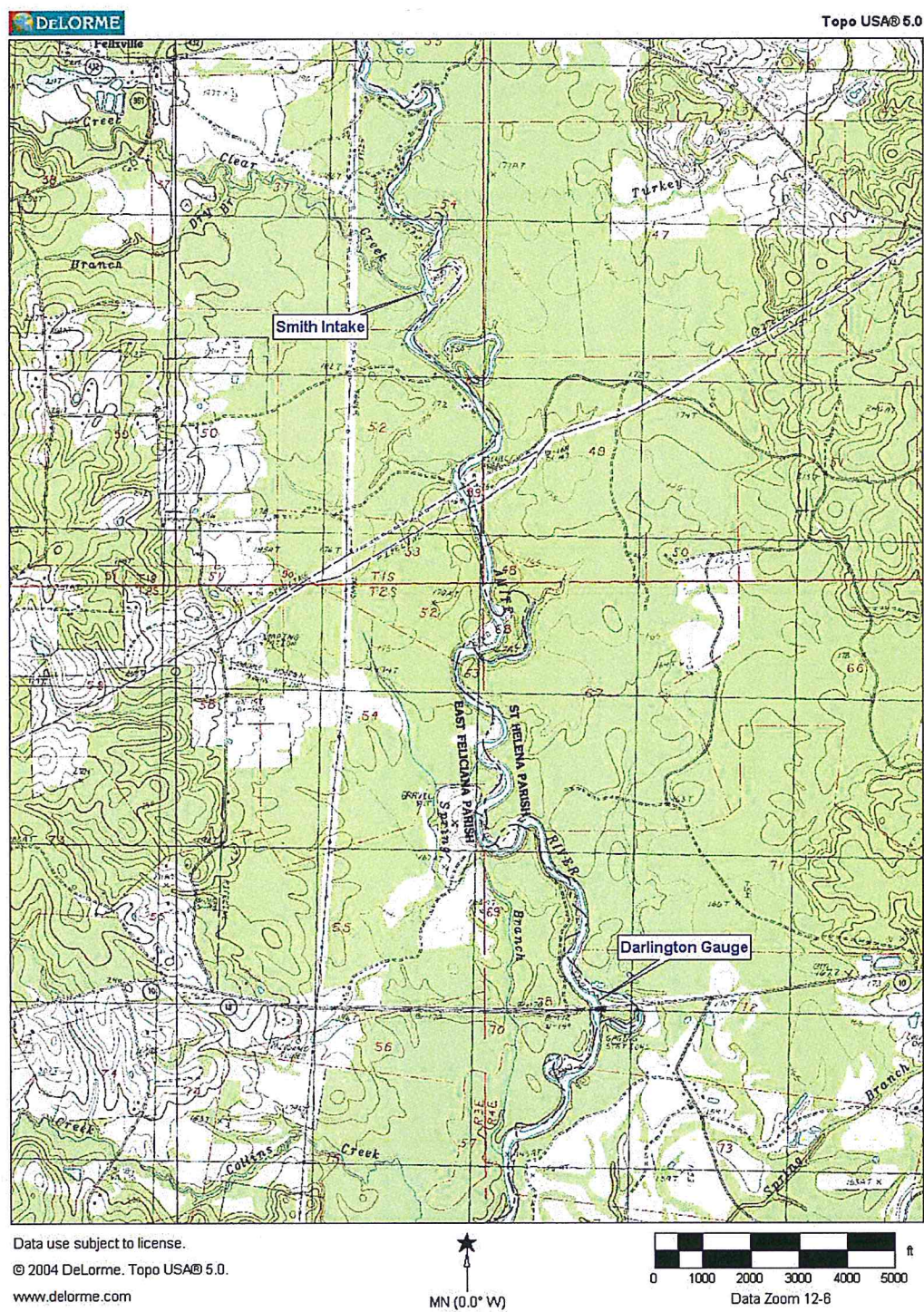


Figure 3. Topographic Map

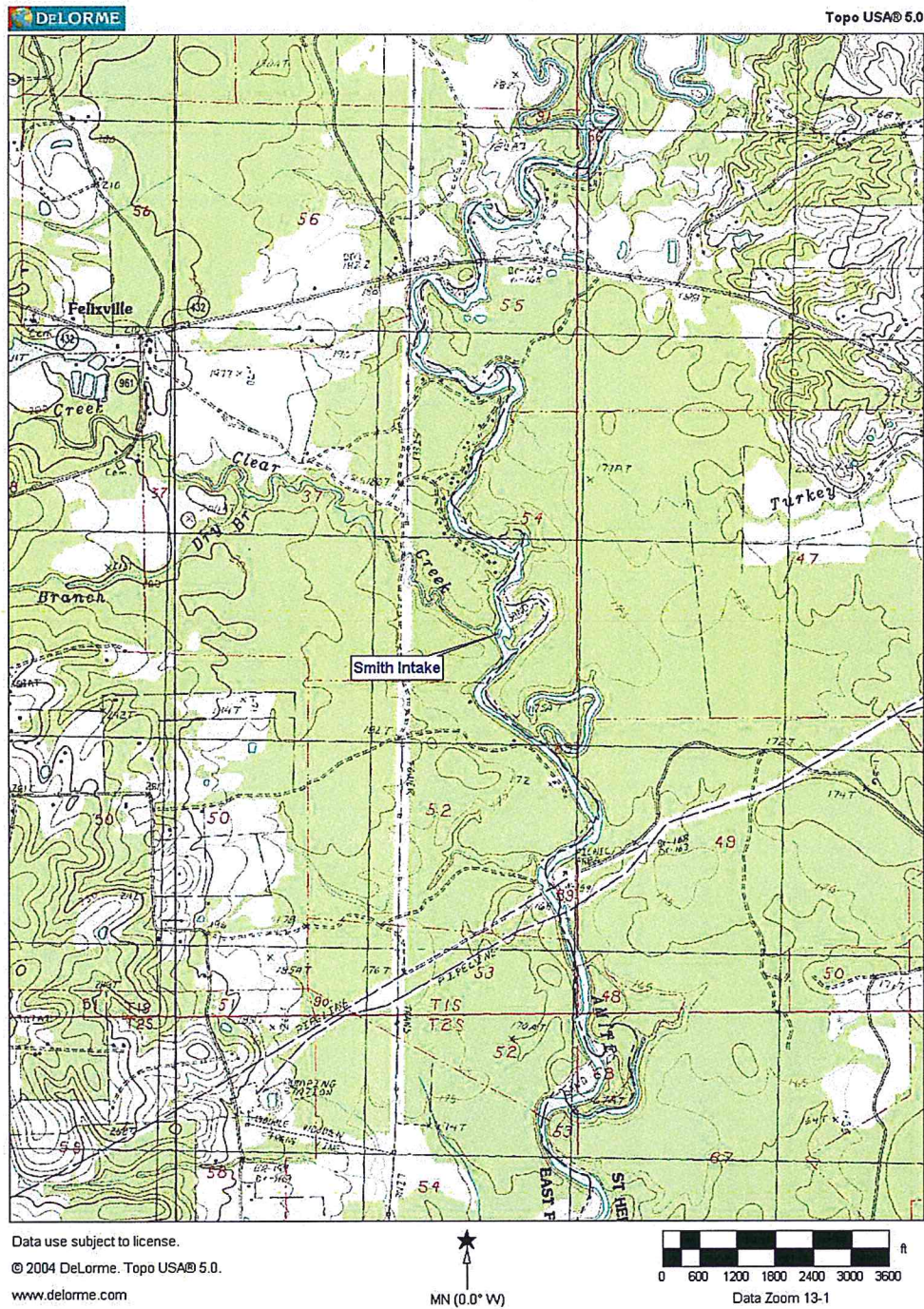


Figure 2. Aerial Photograph



→ = Discharge Direction



Figure 4. View of the Amite River intake and east bank from the west bank.



Figure 5. View downstream (south) from the intake.



Figure 6. View upstream (north) from the intake.

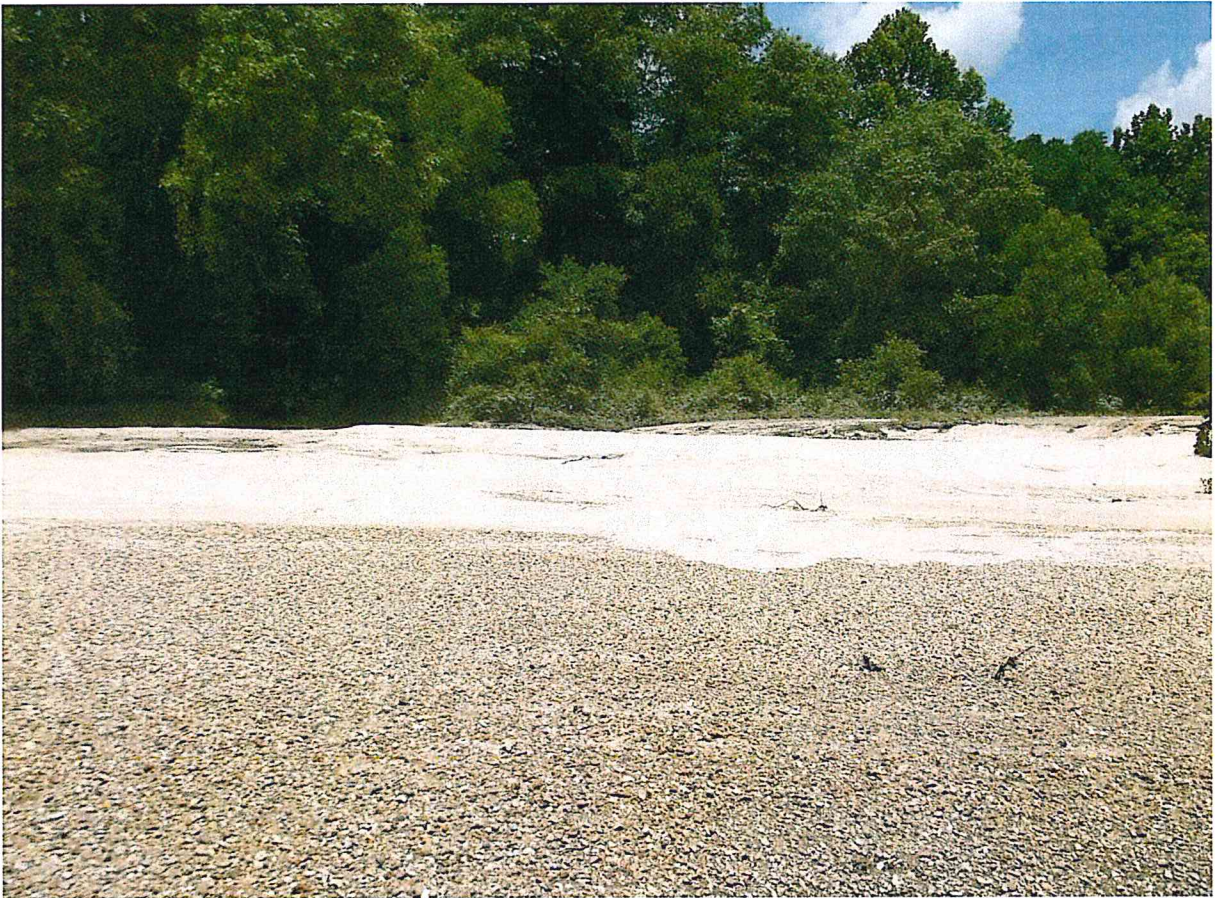
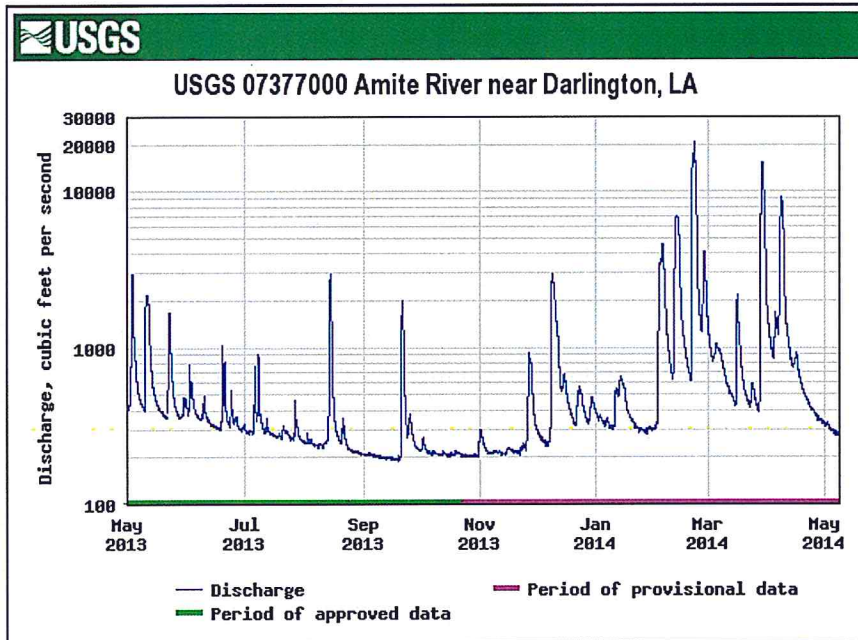
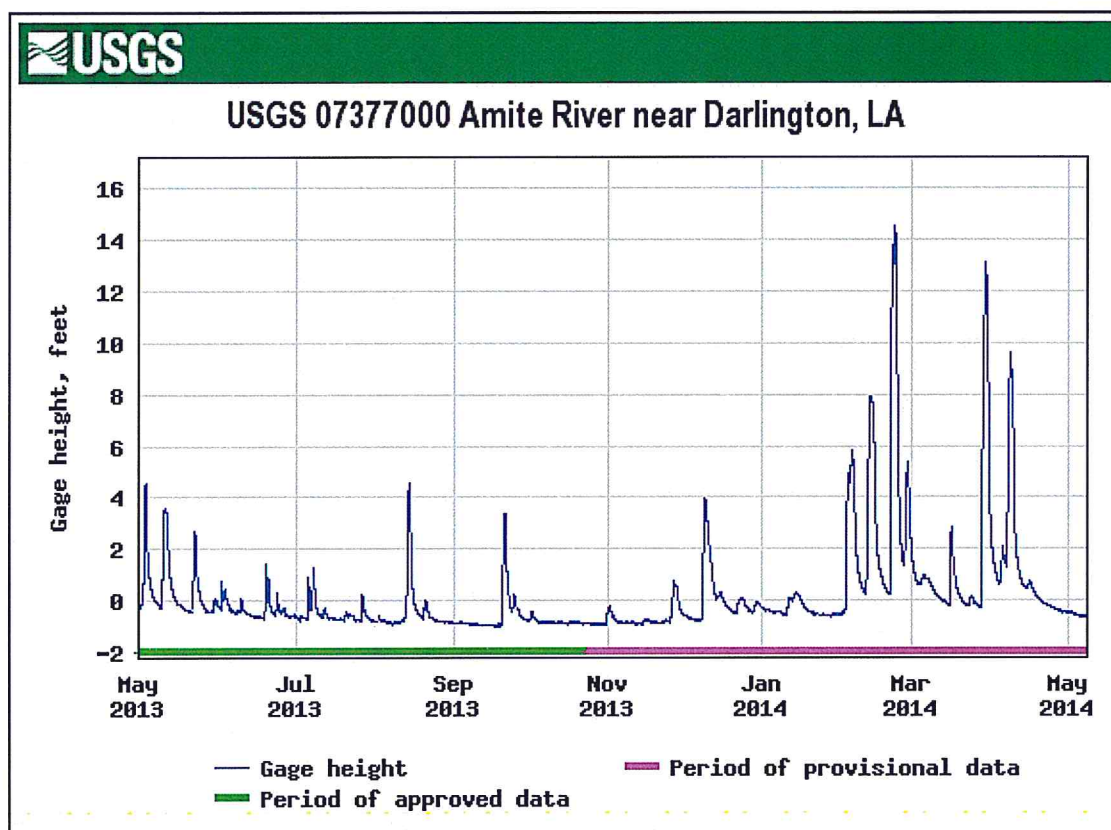
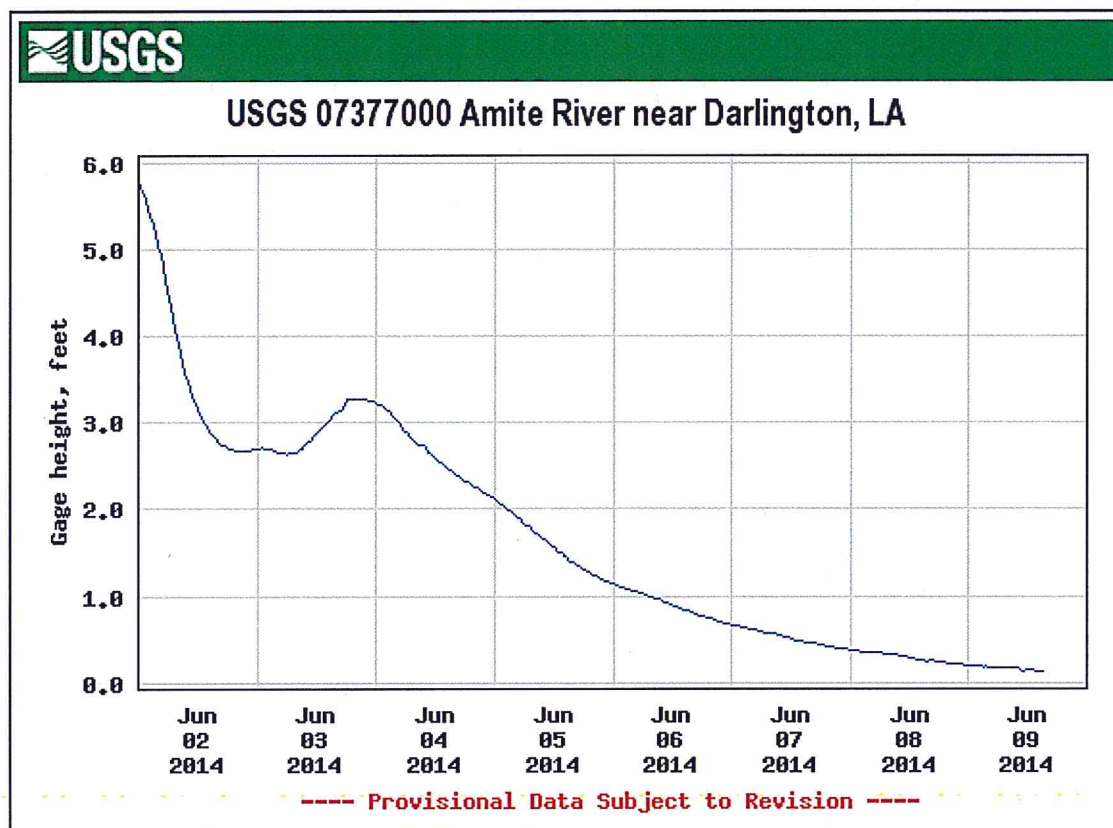
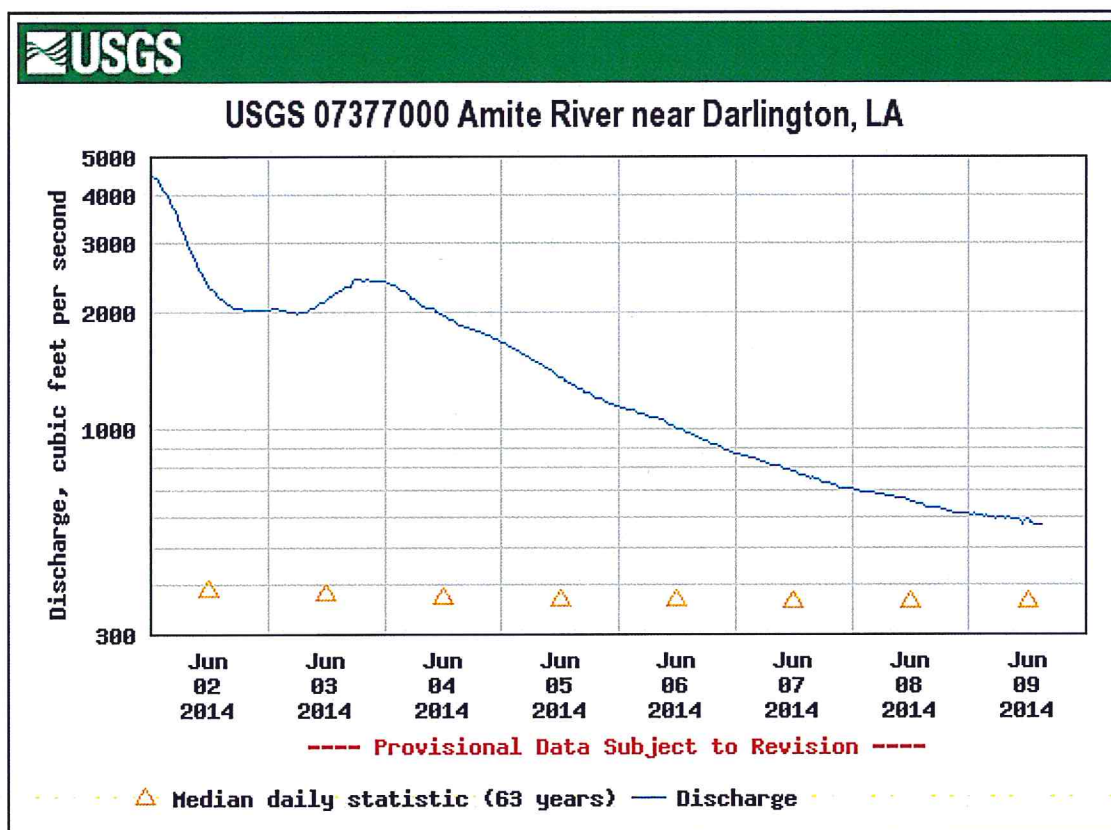


Figure 7. View of the beach where hose/pipe will be on the west bank from the intake point.












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## National Water Information System: Web Interface

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Data Category:  Geographic Area:

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- April 18, 2014 - We have made changes to our code that correct the 502 gateway error when using AT&T.
- Read the [Mobile Site Tutorial](#) Try it (<http://m.waterdata.usgs.gov>) from your mobile device!
- [Full News](#) 

## USGS 07377000 Amite River near Darlington, LA

Available data for this site | SUMMARY OF ALL AVAILABLE DATA

### Stream Site

#### DESCRIPTION:

Latitude 30°53'20", Longitude 90°50'40" NAD27  
St. Helena Parish, Louisiana, Hydrologic Unit 08070202  
Drainage area: 580.00 square miles  
Datum of gage: 145.81 feet above NGVD29.

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
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**Table 2.** Low-flow characteristics for continuous-record streamflow-gaging stations having 10 or more years of record—Continued

07377000 Amite River near Darlington, La. (74)

**LOCATION.**--Lat 30°53'20", long 90°50'40", in sec. 72, T. 2 S., R. 4 E., St. Helena Meridian, St. Helena Parish, near center of span on downstream side of bridge on State Highway 10, 1.5 mi upstream from Collins Creek, and 4.0 mi west of Darlington.

**DRAINAGE AREA.**--580 mi<sup>2</sup>.

**PERIOD OF RECORD.**--October 1950 to September 1999.

**MEAN-DAILY MINIMUM FLOW.**--188 ft<sup>3</sup>/s.

**REMARKS.**-- Significant trend.

Lowest annual average flow, in ft<sup>3</sup>/s, for the indicated number of consecutive days and recurrence interval

Days									
1	3	7	10	14	20	30	60	120	183
<u>2-year recurrence interval</u>									
245	248	250	252	256	262	271	296	349	409
<u>5-year recurrence interval</u>									
215	217	219	221	224	228	235	252	284	319
<u>10-year recurrence interval</u>									
203	204	206	208	210	214	220	233	257	284
<u>20-year recurrence interval</u>									
194	195	197	198	201	205	209	220	238	260

Lowest average flow, in ft<sup>3</sup>/s, for the indicated season, number of consecutive days, and recurrence interval

March-May			June-August			September-November			December-February		
Days											
1	7	14	1	7	14	1	7	14	1	7	14
<u>2-year recurrence interval</u>											
330	349	369	268	281	295	248	254	263	325	363	413
<u>10-year recurrence interval</u>											
254	265	277	214	223	232	205	209	215	242	254	275
<u>20-year recurrence interval</u>											
238	247	261	202	209	218	196	200	204	224	230	247

Flow, in ft<sup>3</sup>/s, which was exceeded for the indicated percentage of days

Percentage of days									
1	5	10	25	50	75	90	95	99	
9,990	3,350	1,700	759	440	312	261	236	208	

